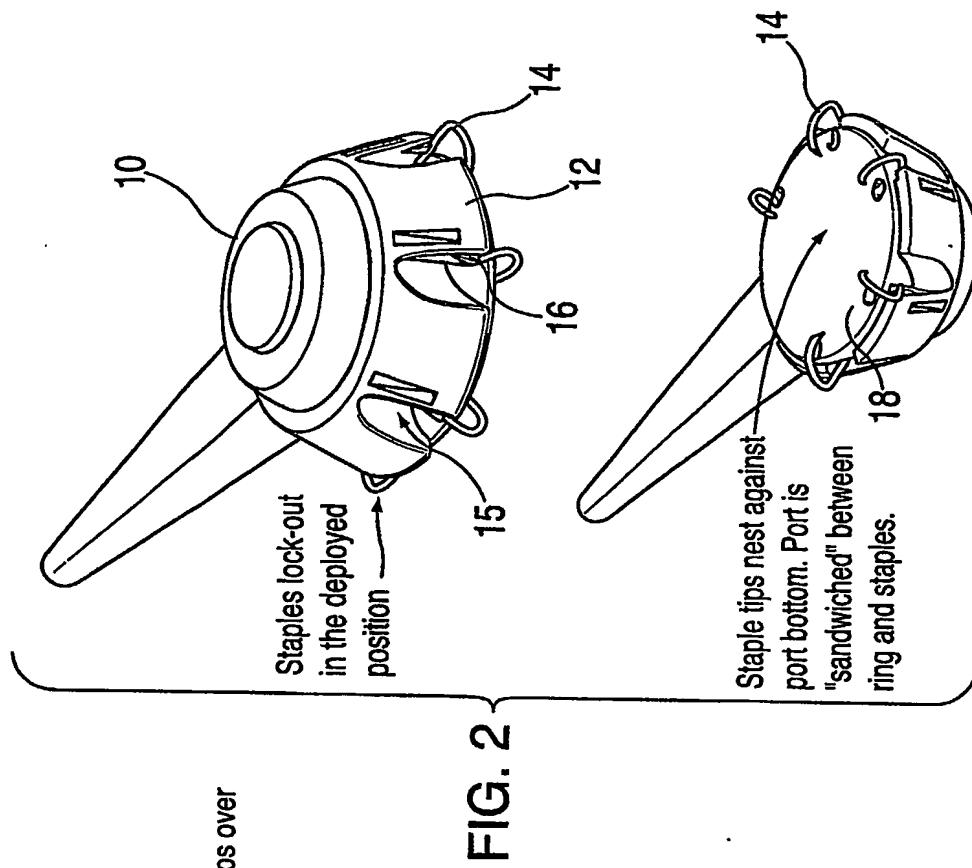
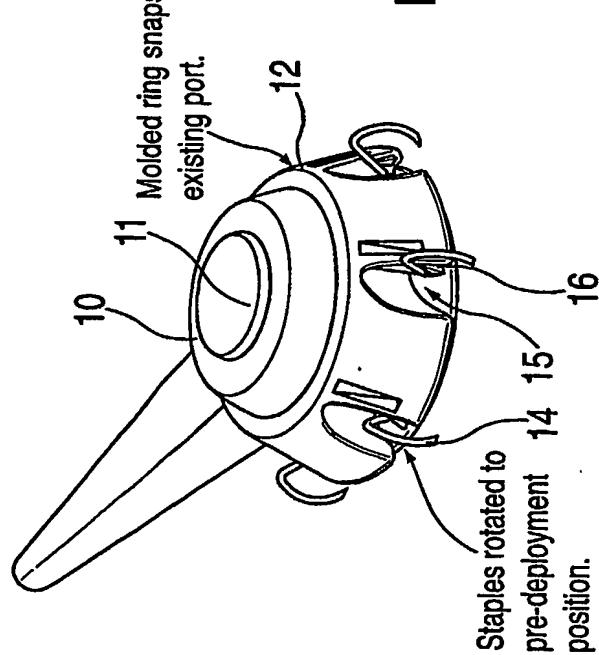


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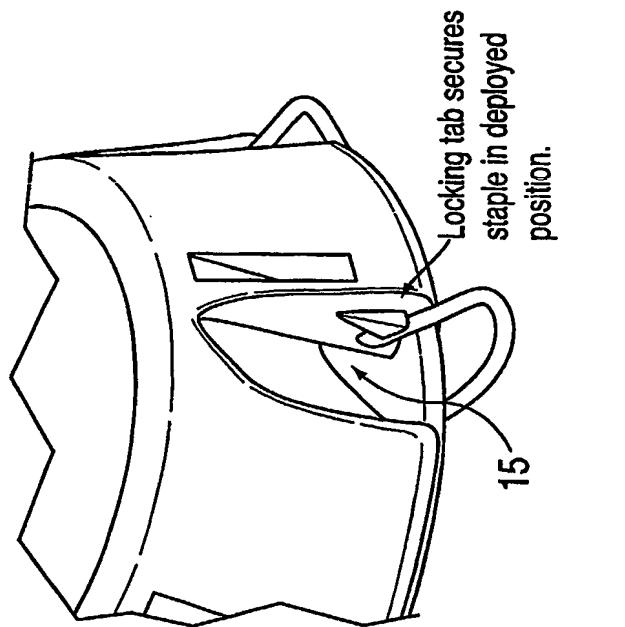
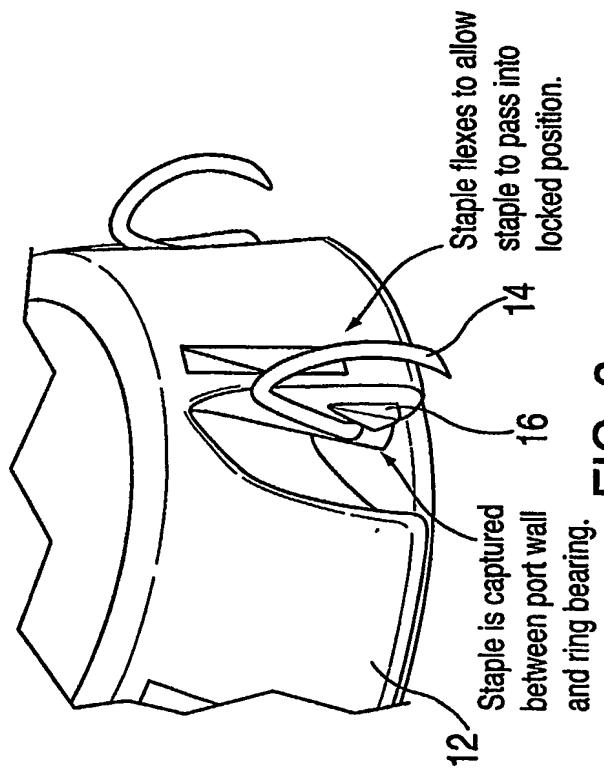
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Radial Pivot Fastener

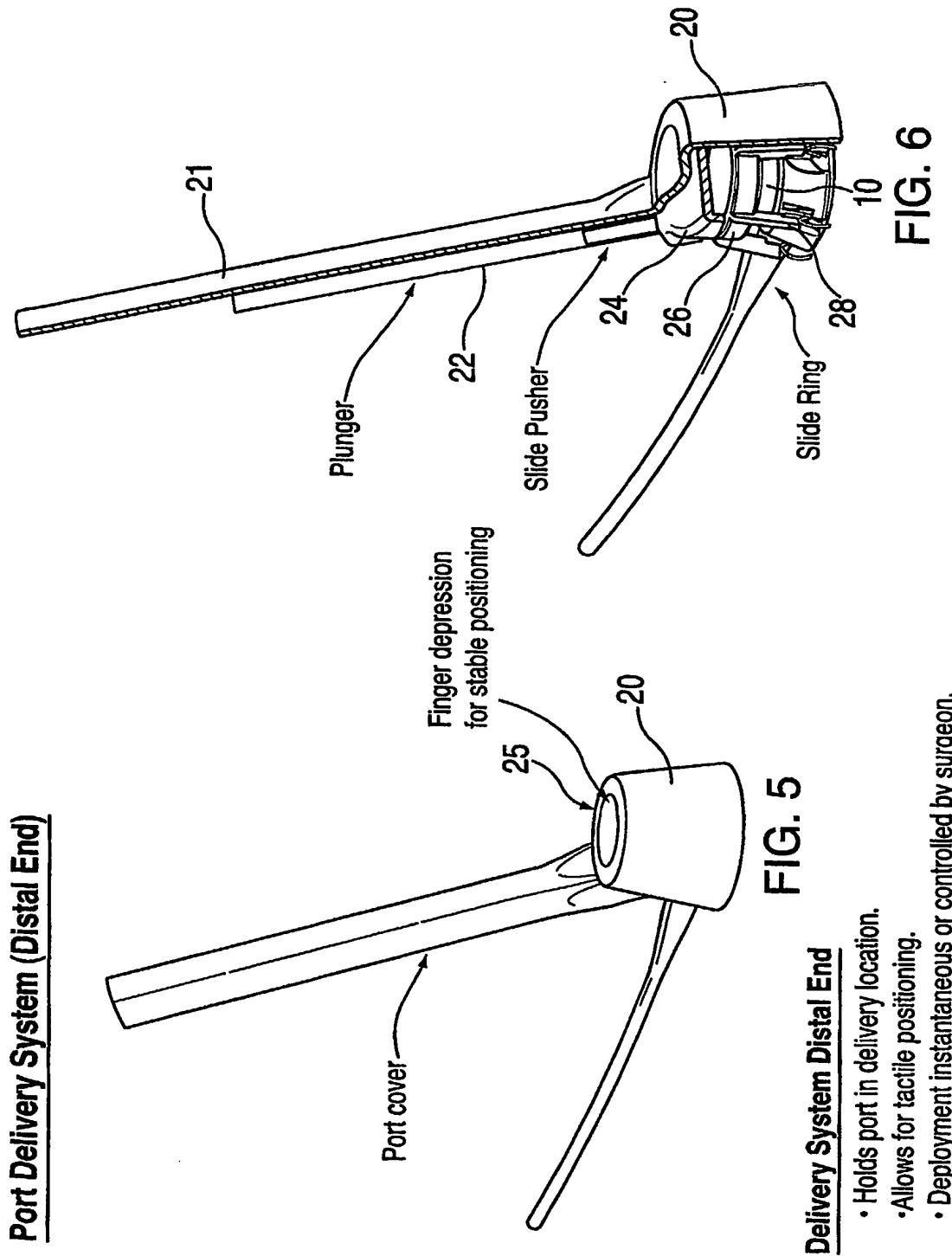
F. Radial Pivot Fastener



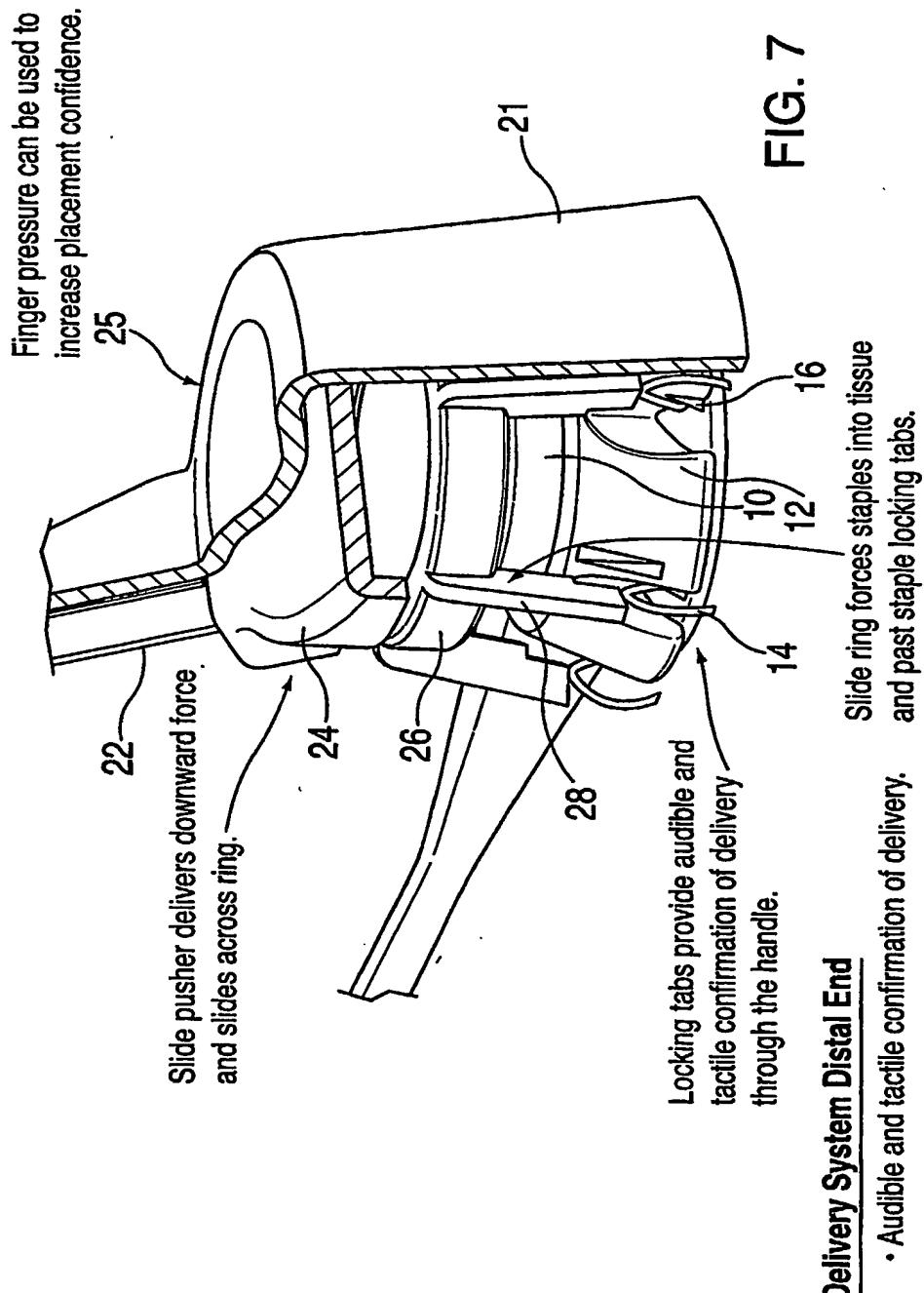
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Radial Pivot Fastener (detail)**FIG. 4****FIG. 3**

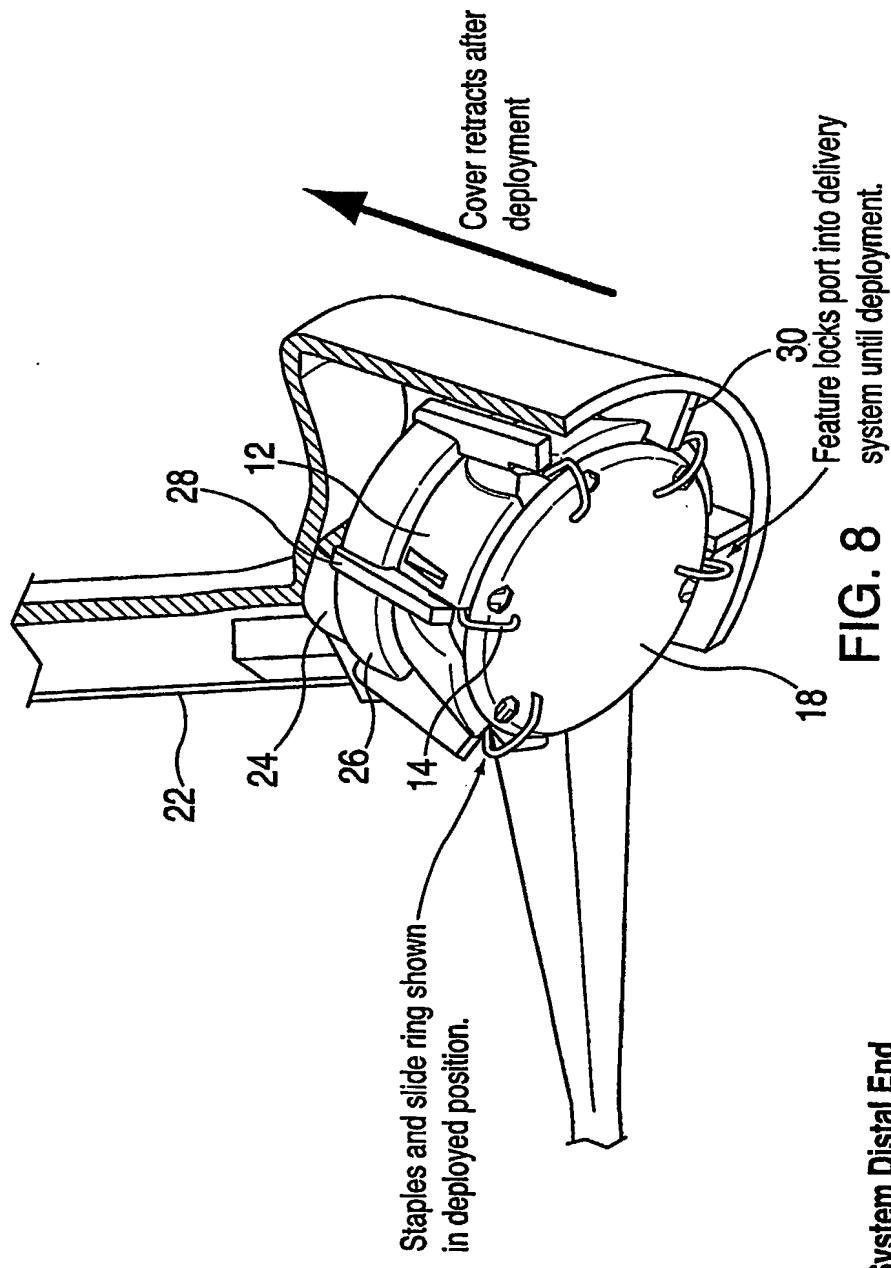
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Port Delivery System (Distal End)



Port Delivery System (Distal End)



Port Delivery System (handle configurations)

Pencil Grip style

(shown with shaft at 60°)

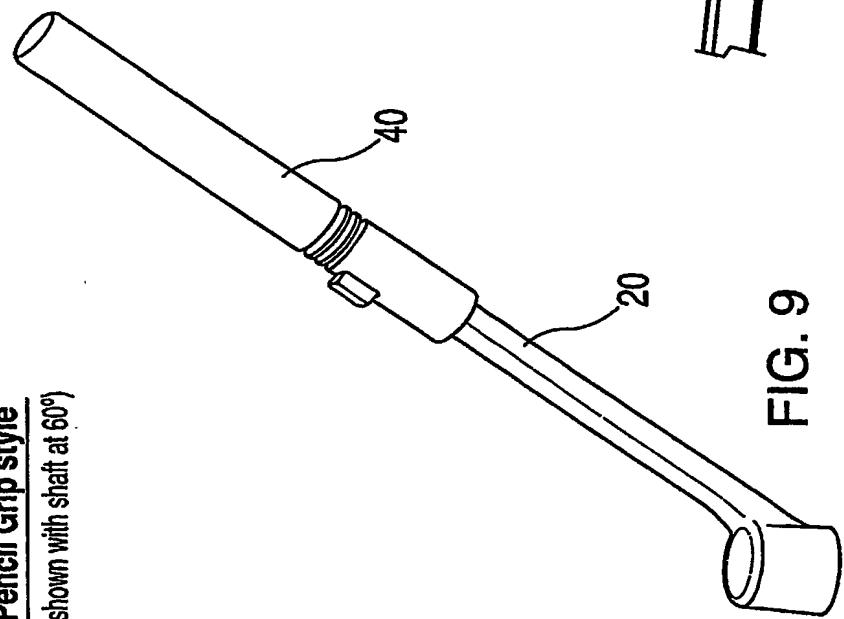


FIG. 9

Simple Button/Trigger Release mechanism

- Produces ~0.250 - 0.750" rod travel
(depends on force requirement)

- Deployment instantaneous, high impact speed

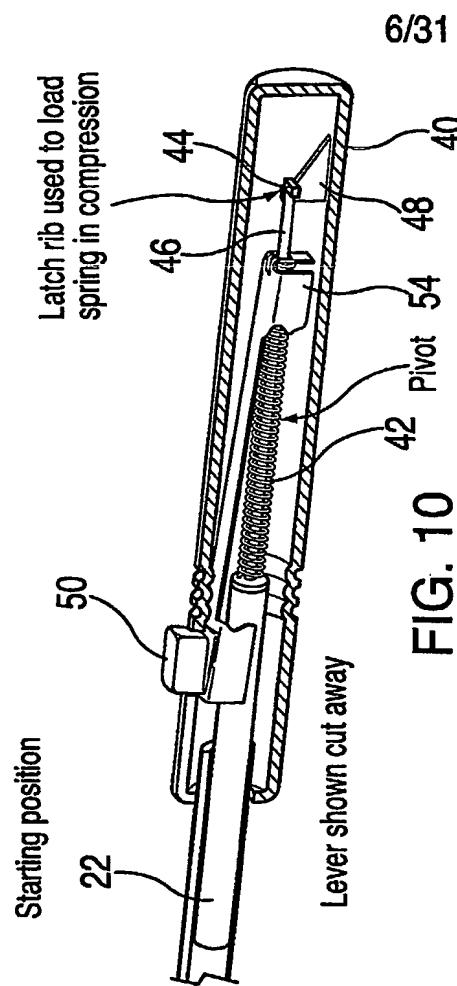


FIG. 10

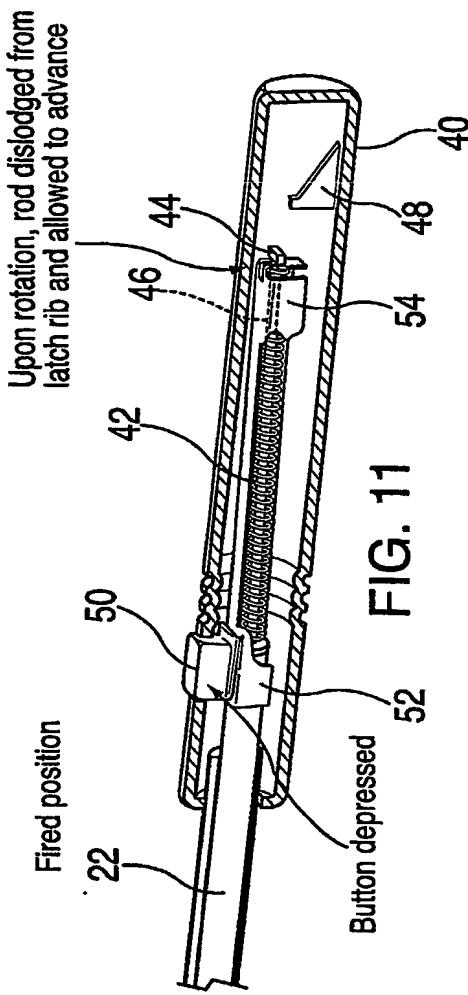
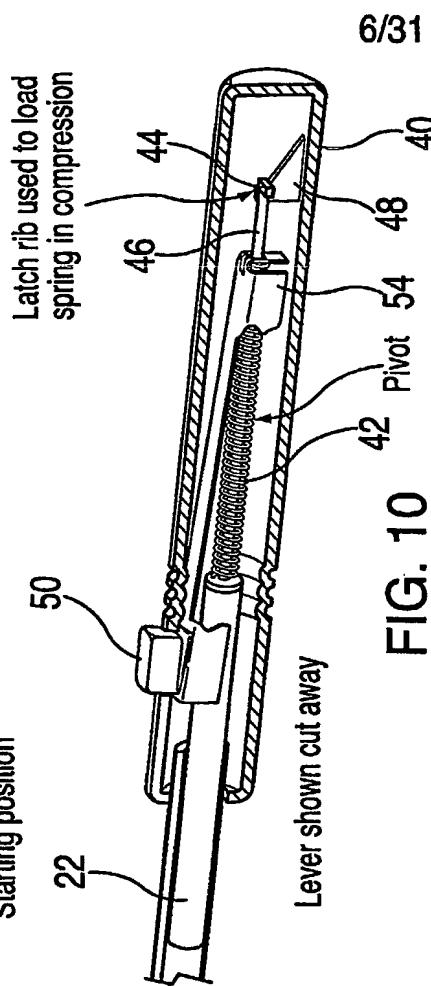


FIG. 11



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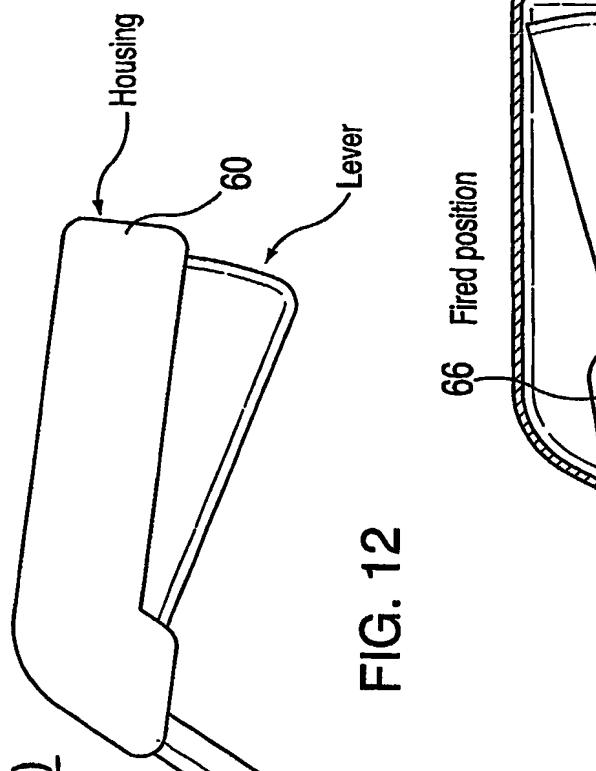


FIG. 12

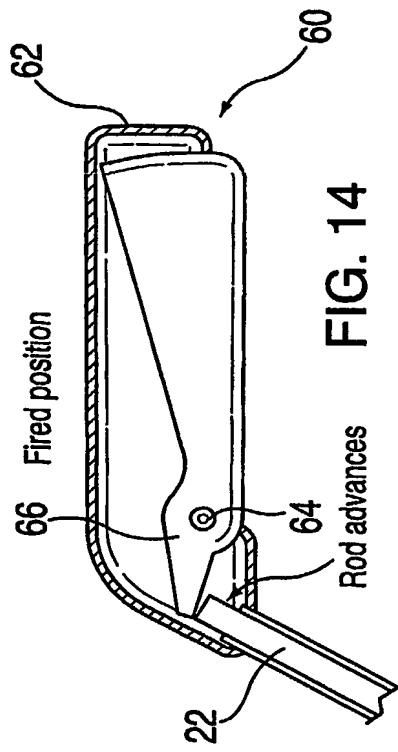


FIG. 14

Lever mechanism

- Produces ~0.250" rod travel
- Can produce in excess of 50lb. force on rod (depends on force requirement)
- Deployment speed controlled by operator

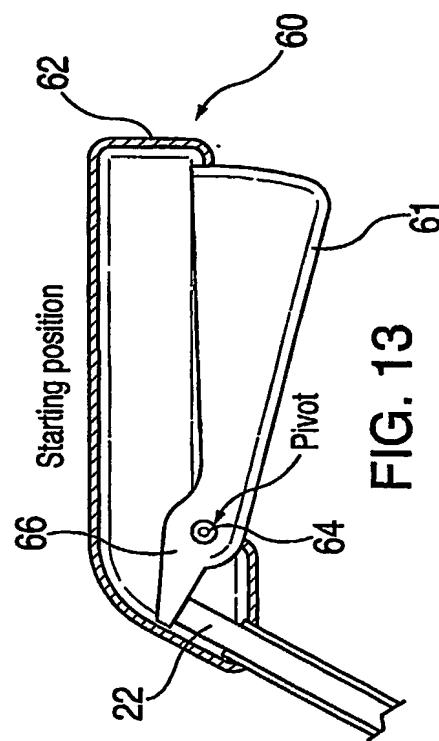


FIG. 13

Port Delivery System (handle configurations)

Palm Grip style
(shown with shaft at 60°)

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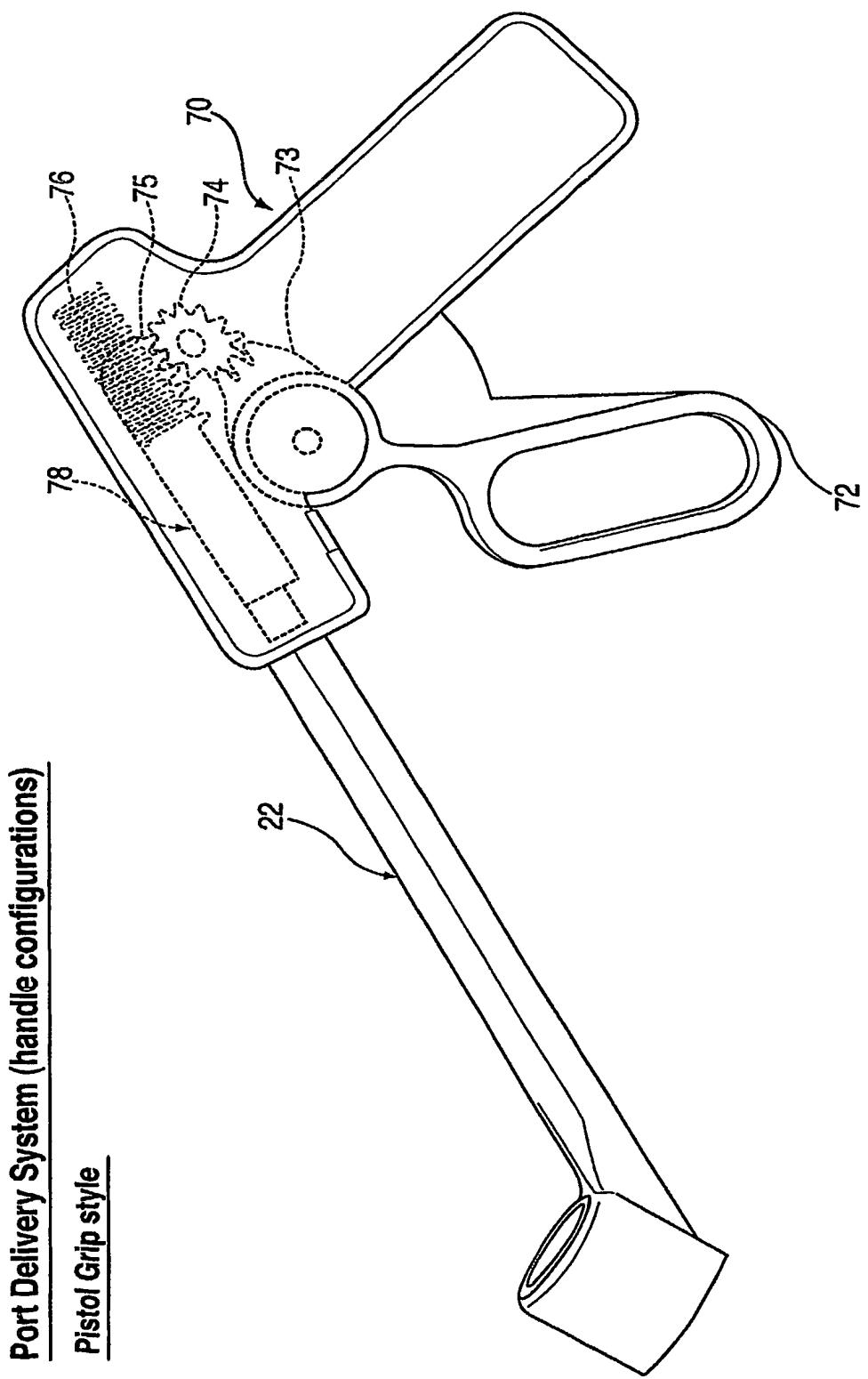


FIG. 15

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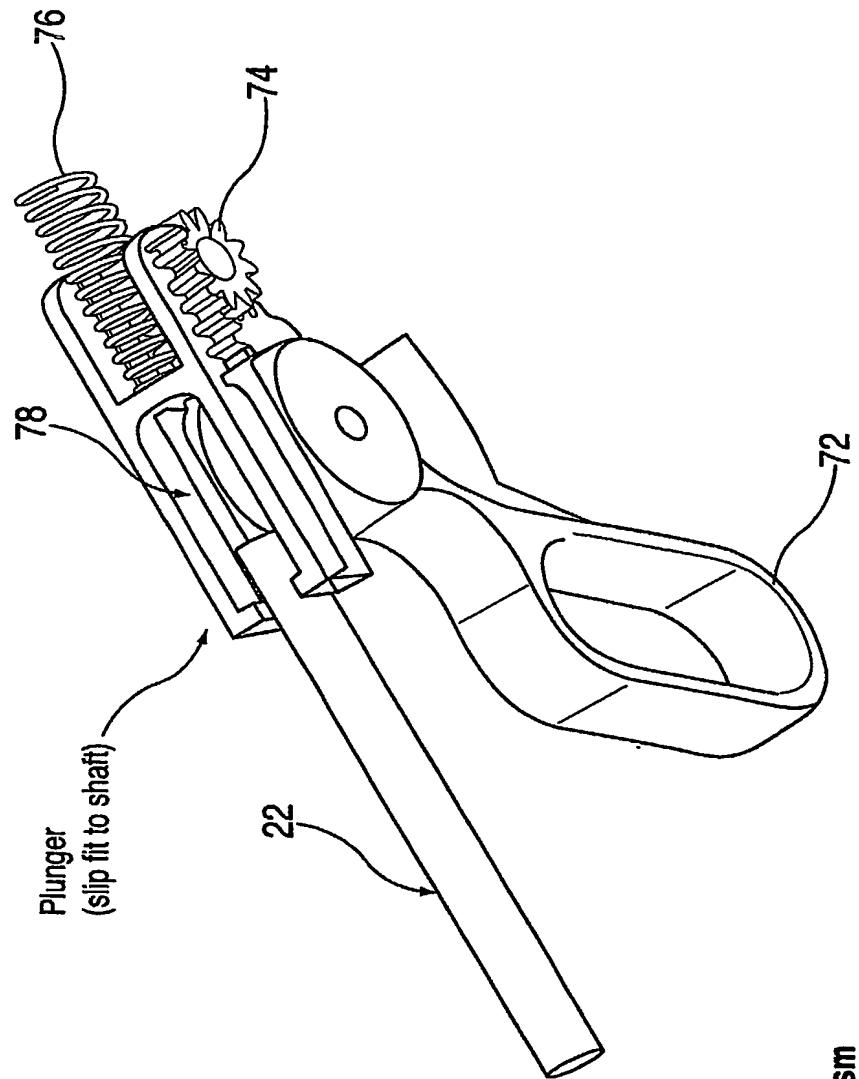
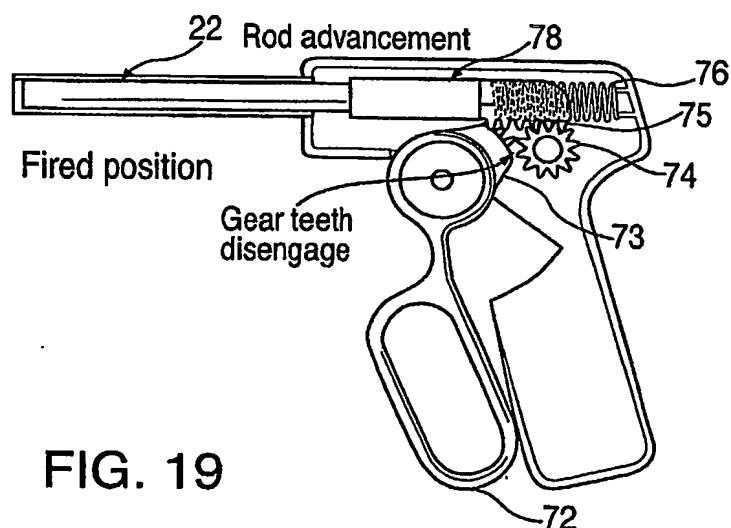
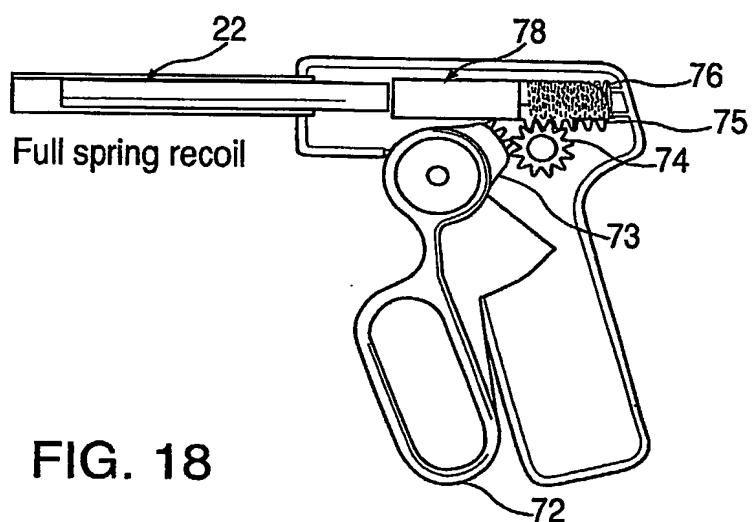
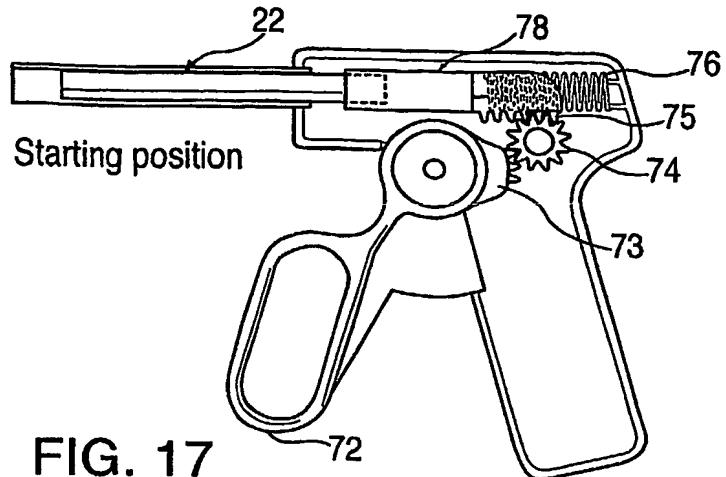


FIG. 16

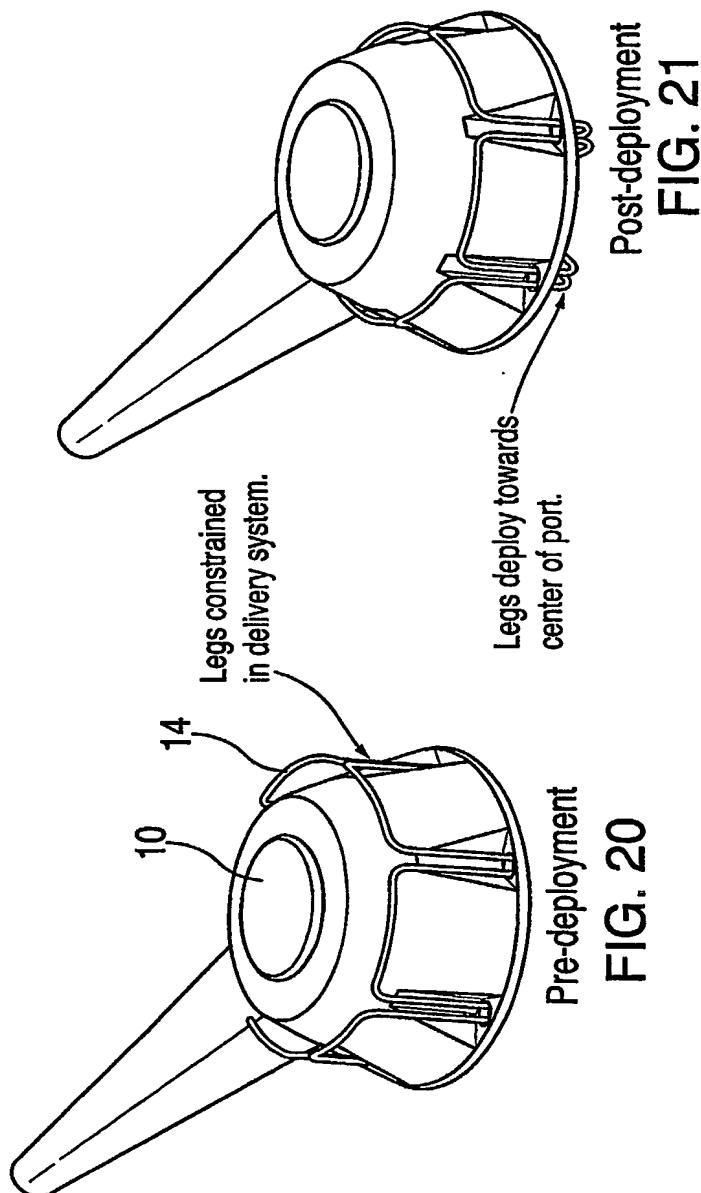
Gear train mechanism

- Produces ~0.400" rod travel
- Can produce ~50lb. force on rod
- Deployment instantaneous, very high impact speed

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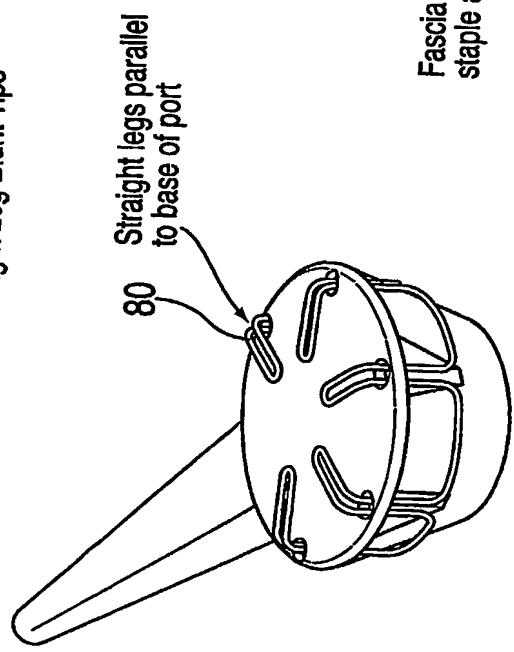
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Continuous NiTi Wire Form

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Continuous Wire Form Possible fastener leg configurations

A1. Continuous Wire Form: Straight Leg Blunt Tips



A2. Continuous Wire Form: Curved Leg, Blunt Tips

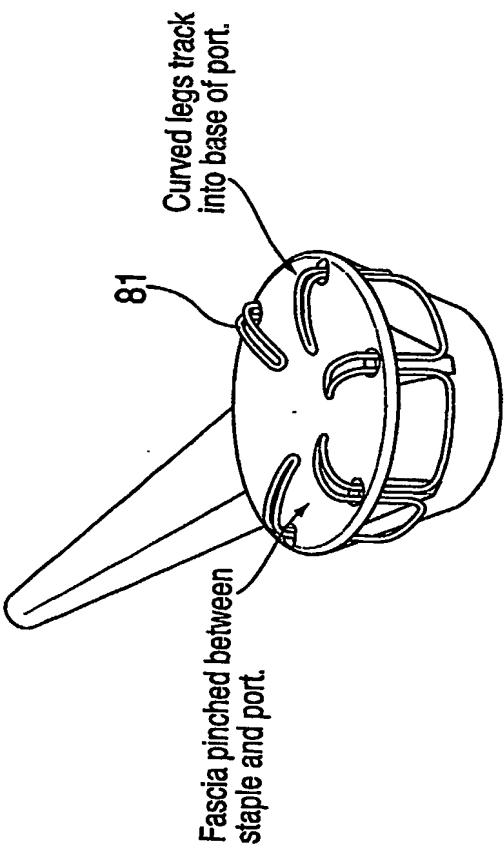


FIG. 22

FIG. 23

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Continuous Wire Form Possible fastener leg configurations

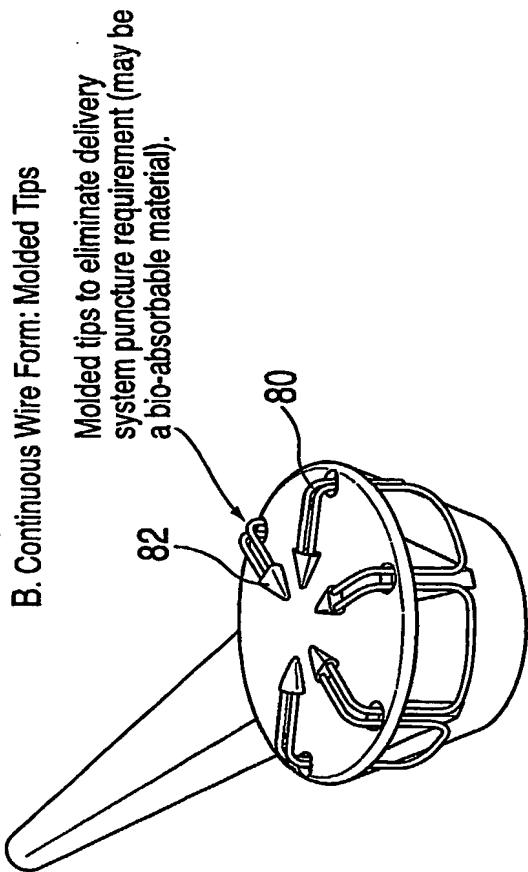


FIG. 24

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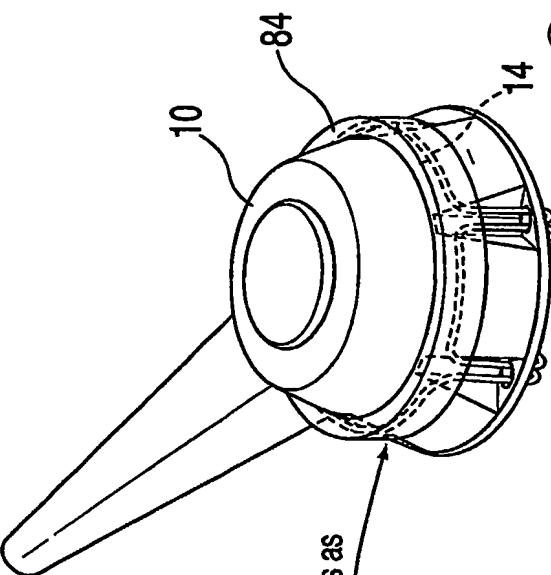


FIG. 26

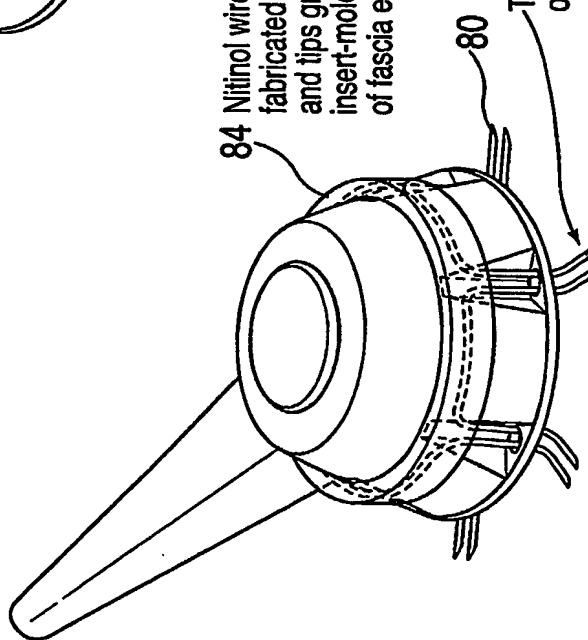


FIG. 25

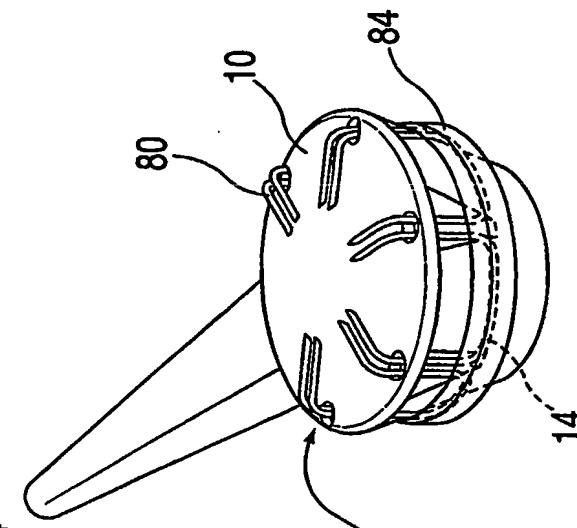
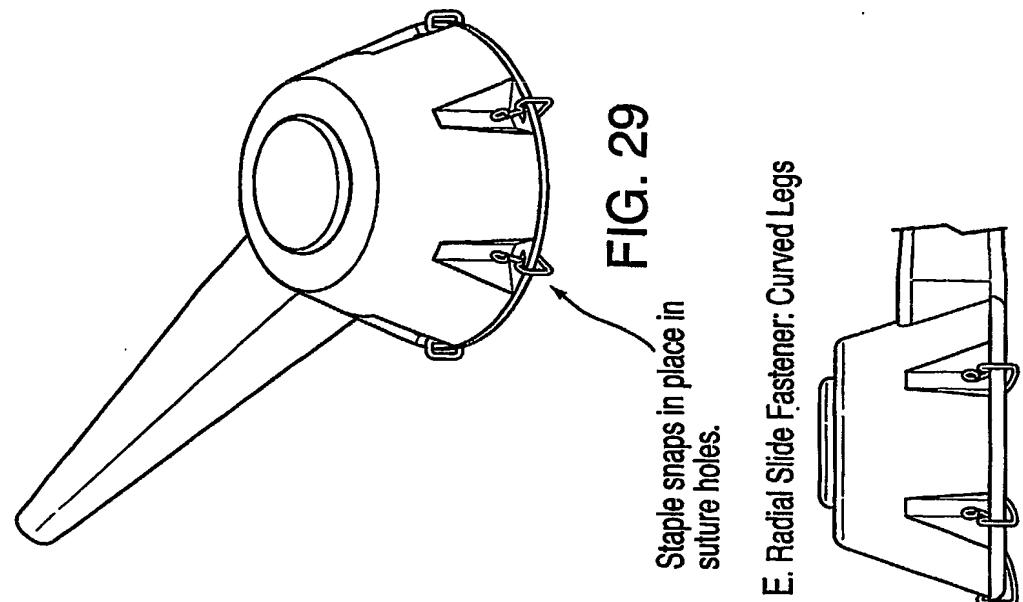
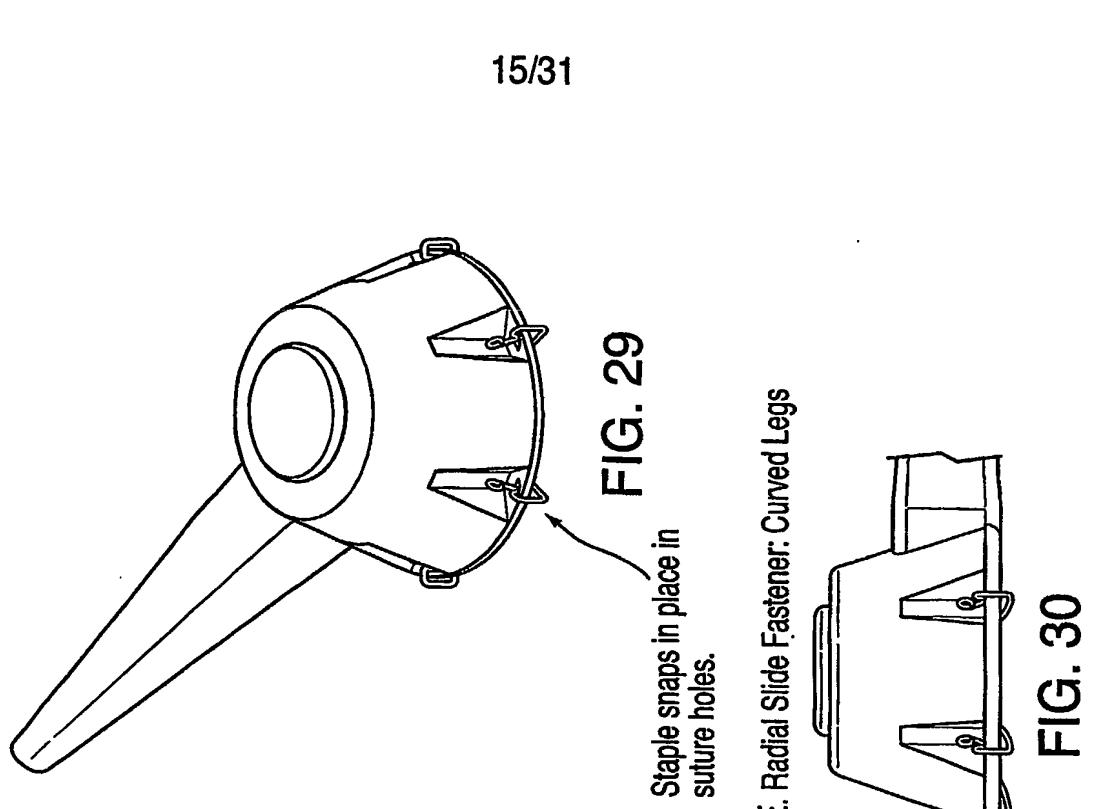
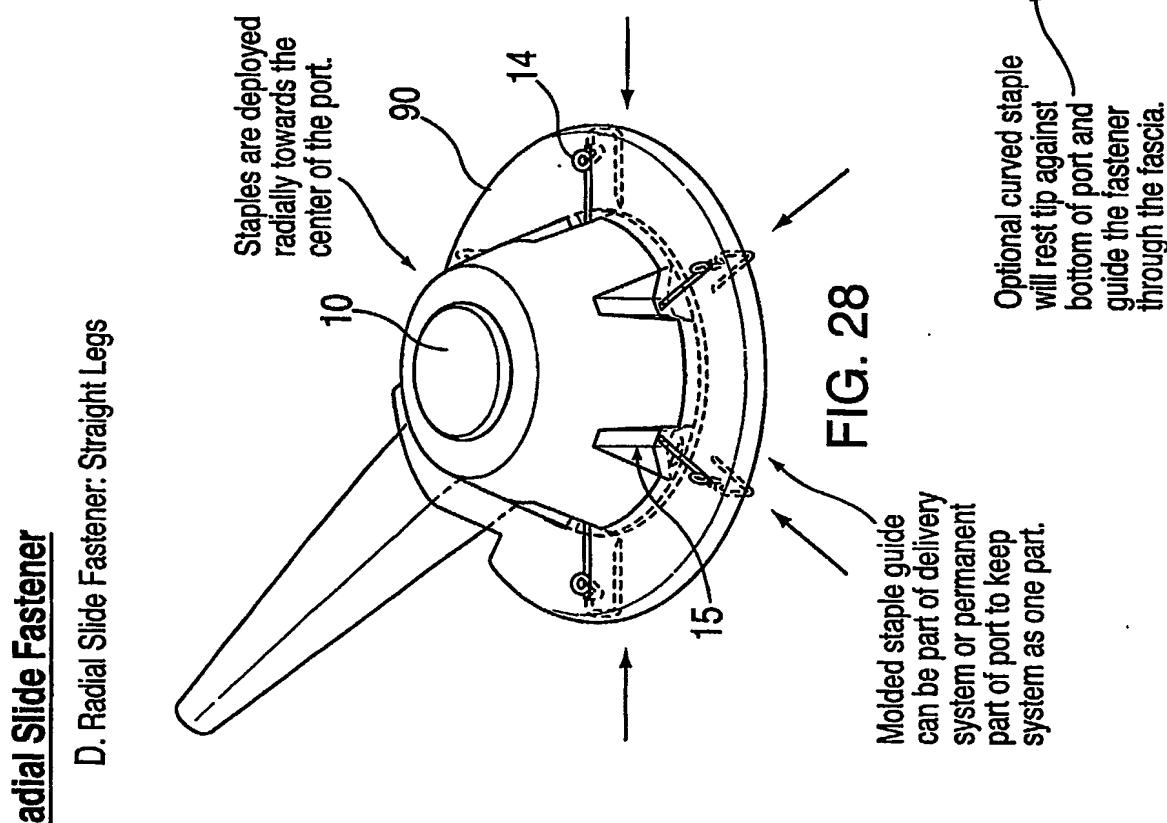


FIG. 27

Continuous Wire Form Modified**C. Continuous Wire Form: Ground Tips**

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Two Part Fastening System: Concept 2

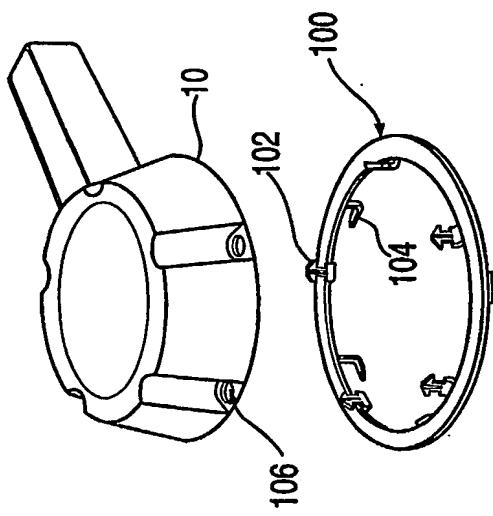


FIG. 31
Pre-Installation

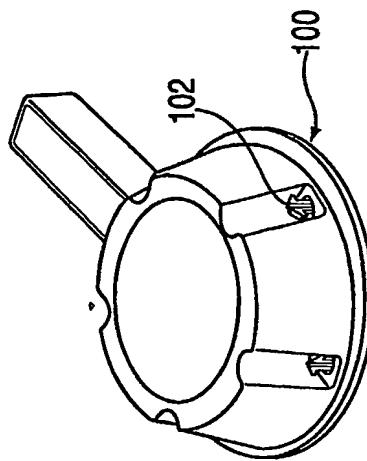


FIG. 32
Post-Installation

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Two Part Fastening System: Concept 1

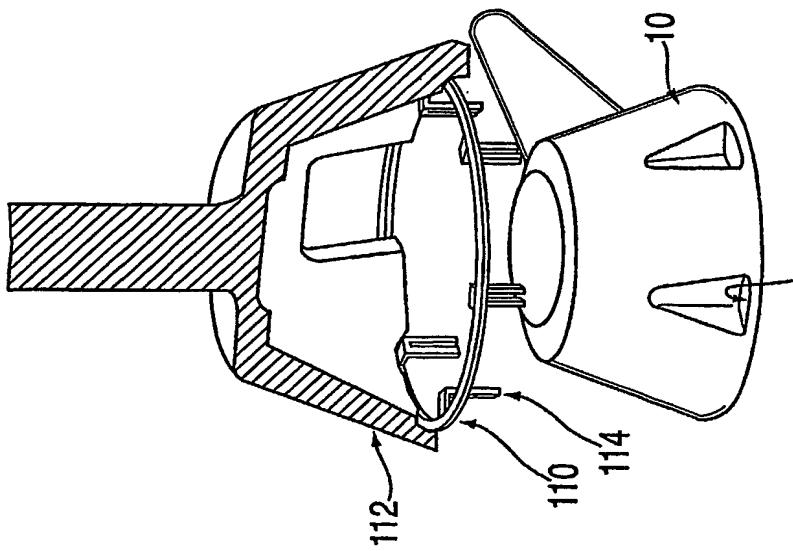


FIG. 33
Pre-Installation

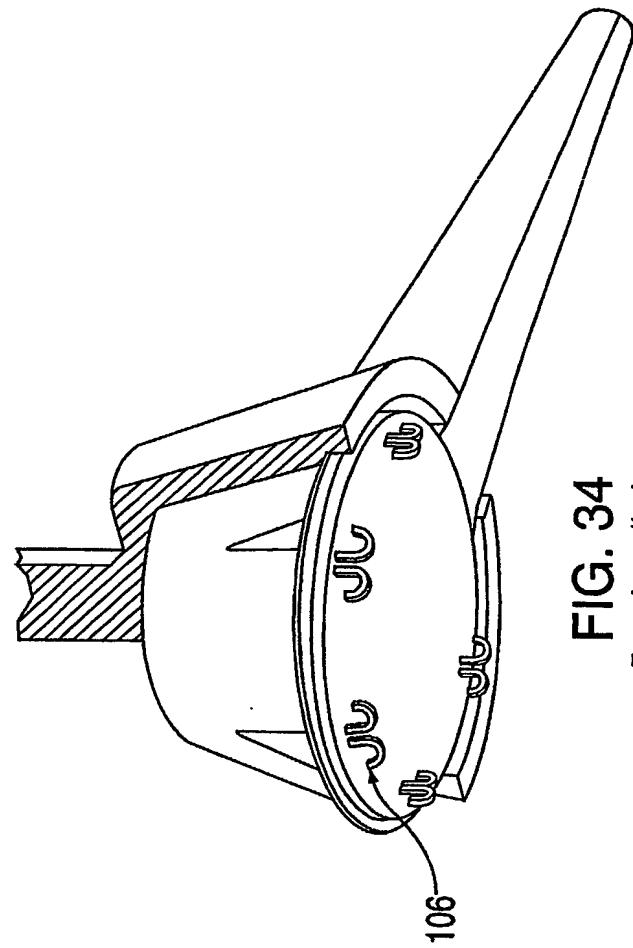
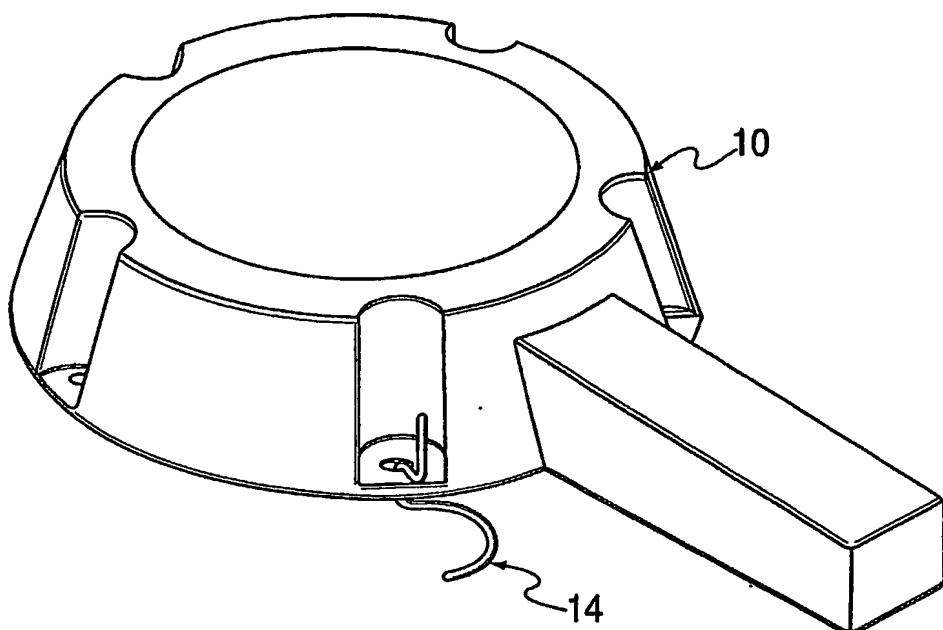


FIG. 34
Post-Installation

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Stand Alone Fastener: Concept 1**FIG. 35**

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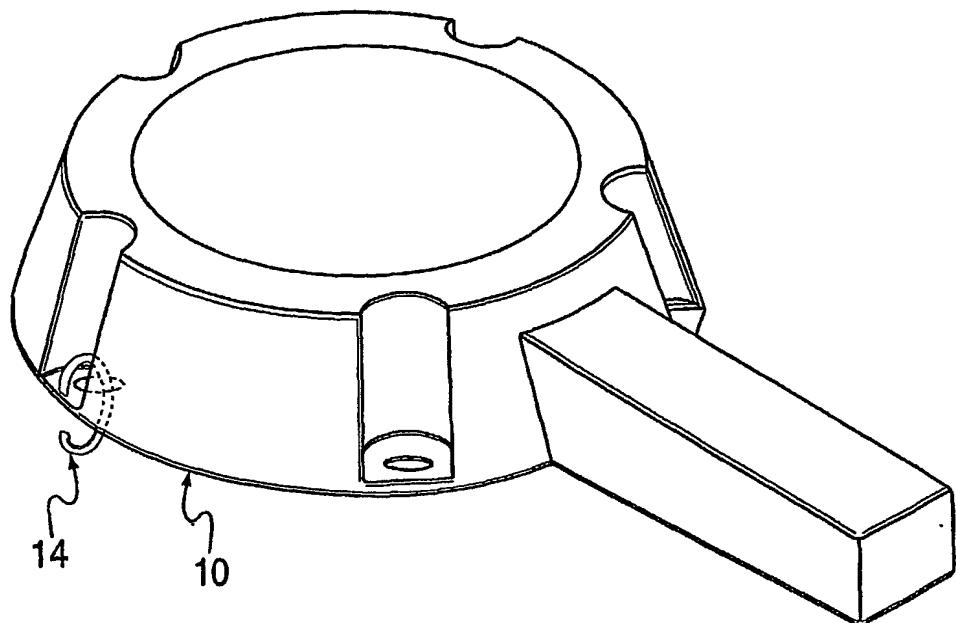
Stand Alone Fastener: Concept 2

FIG. 36

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Stand Alone Fastener: Concept 3

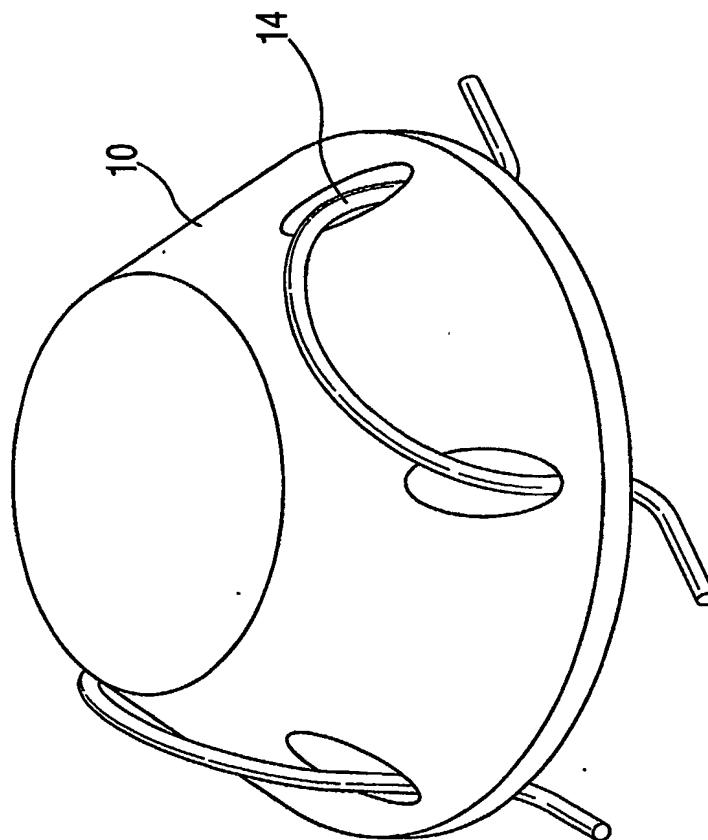
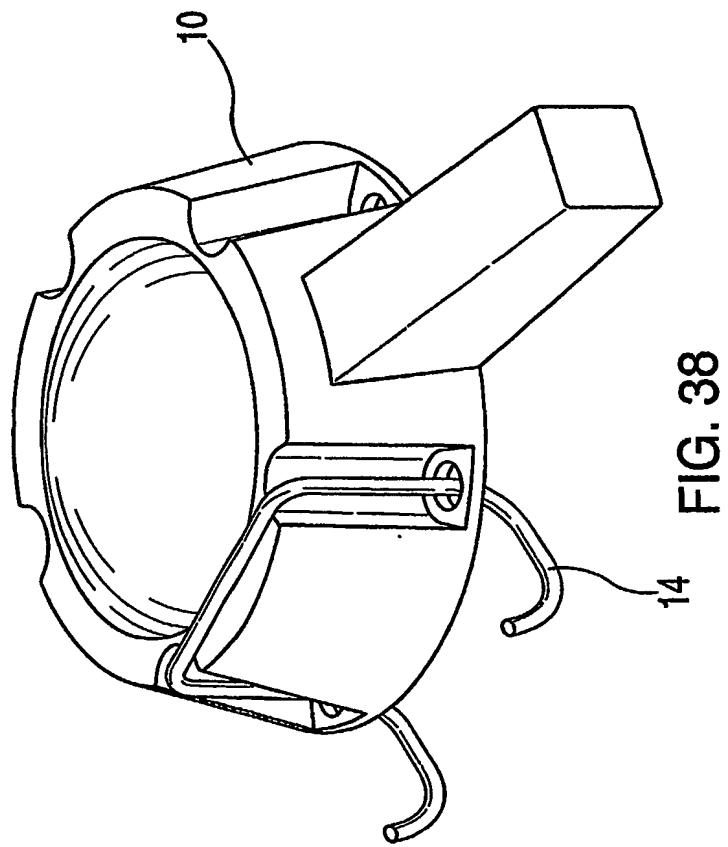


FIG. 37

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Stand Alone Fastener: Concept 4



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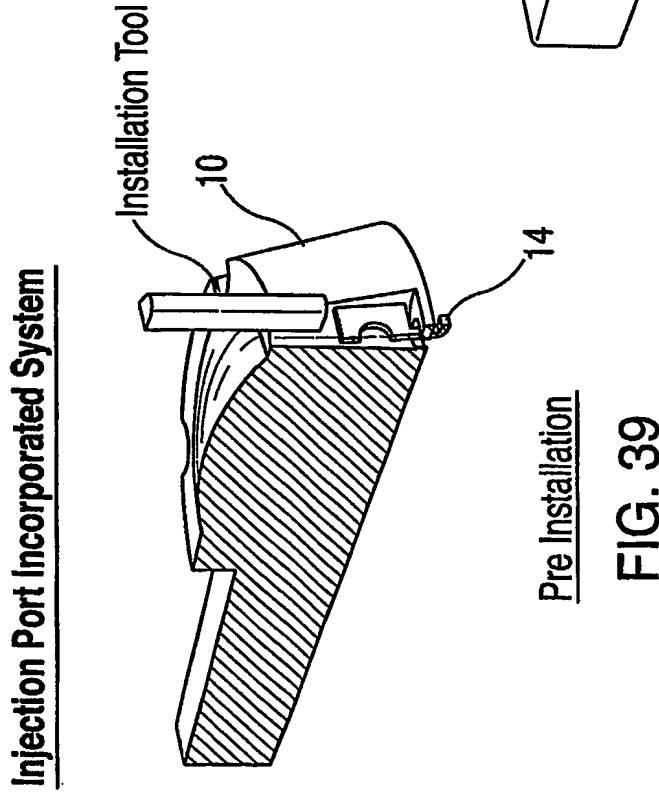


FIG. 39

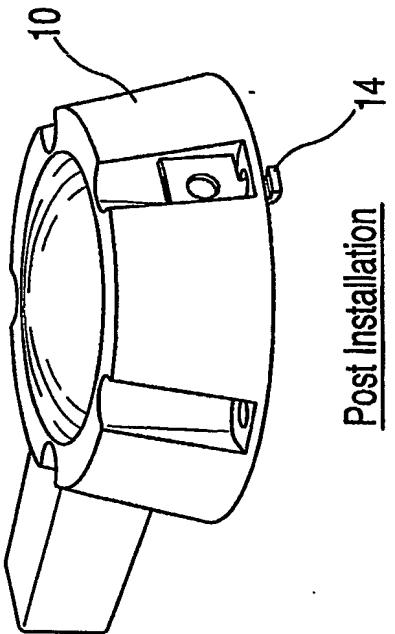


FIG. 40

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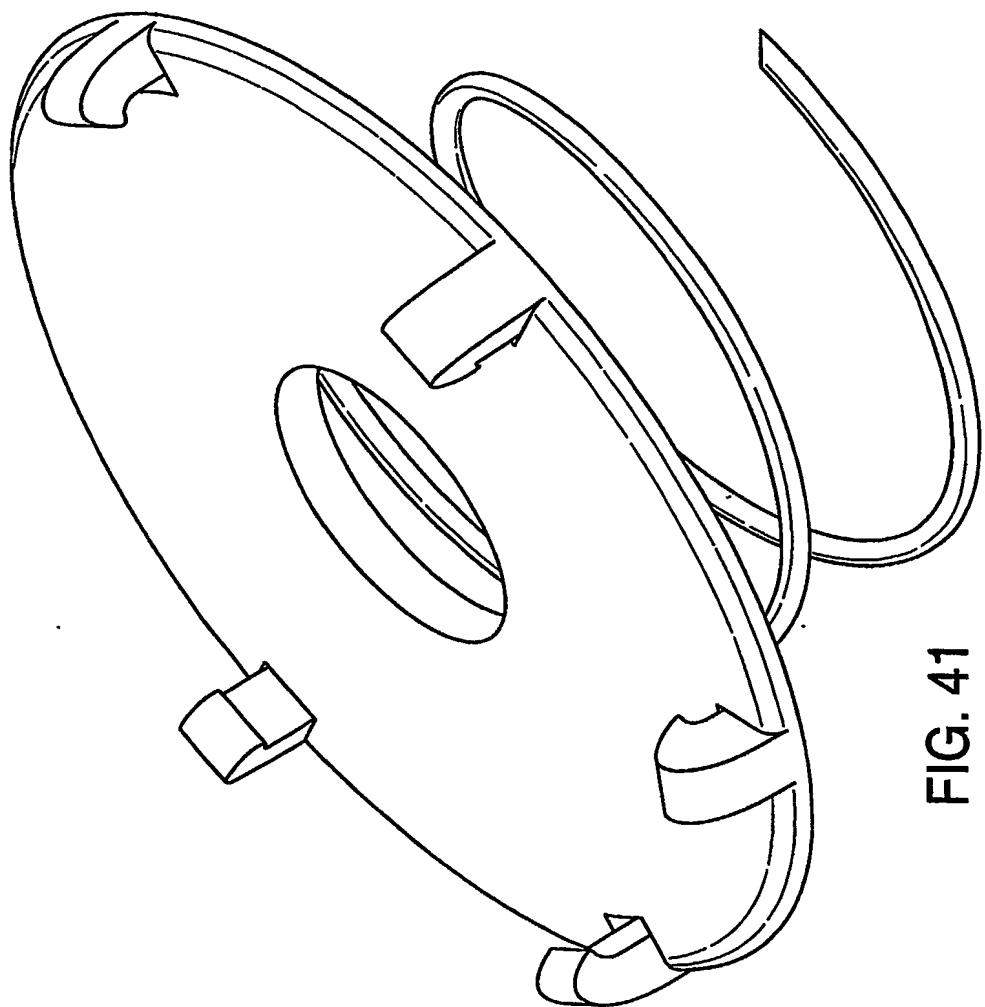


FIG. 41

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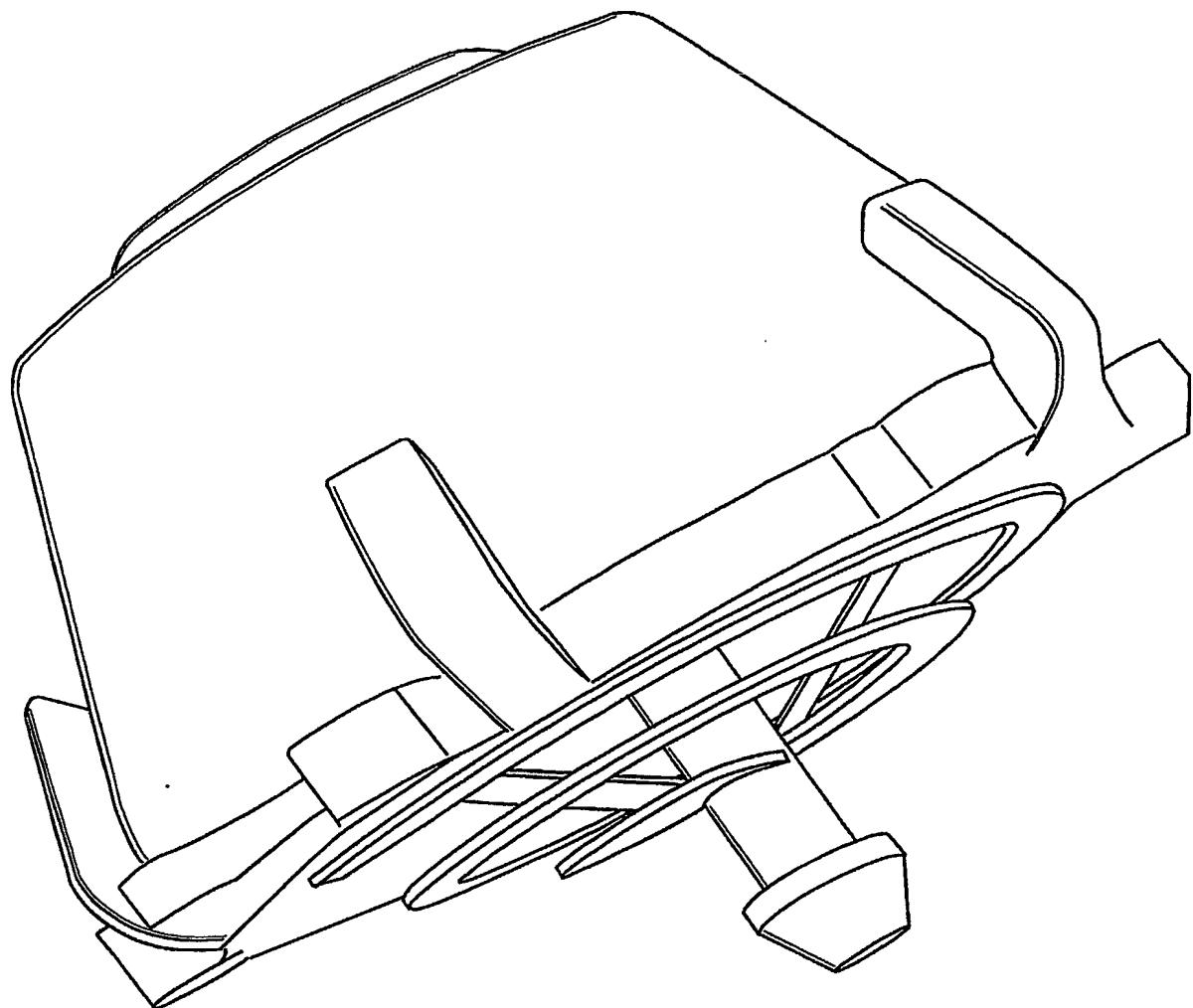


FIG. 42

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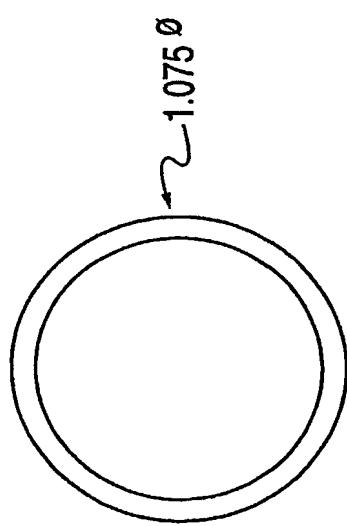


FIG. 43

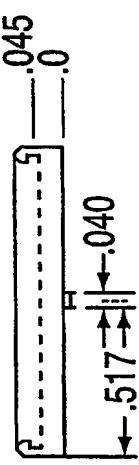


FIG. 44

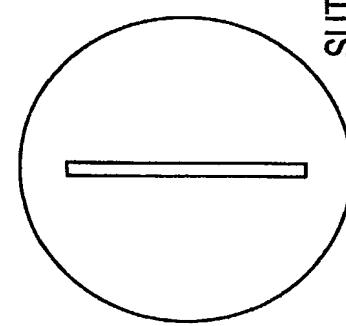


FIG. 45

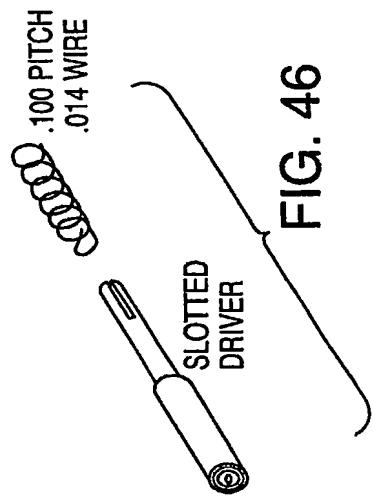
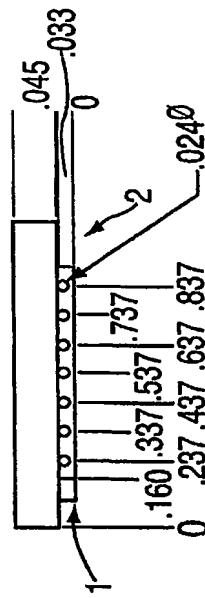


FIG. 46

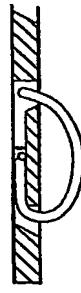
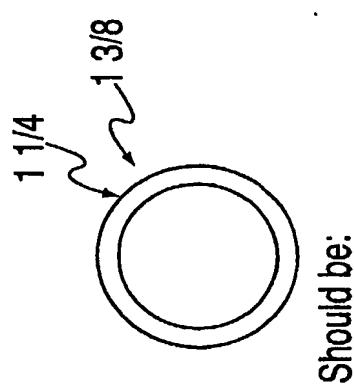


SUTURELESS PORT

NOTES:

1. Should have solid stop.
2. Could have latch by having driver end of spring catch on underside of base.

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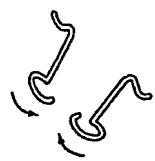


hole at either end of slot

Note:
use .201⁰ mandrel for
curved hooks

FIG. 48

FIG. 51



Hooks (curved needles)

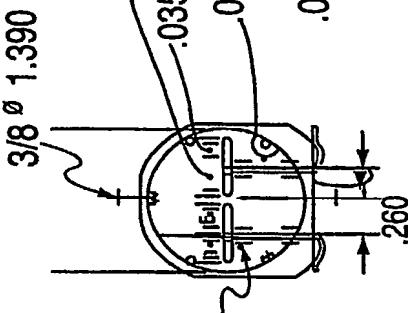


FIG. 49

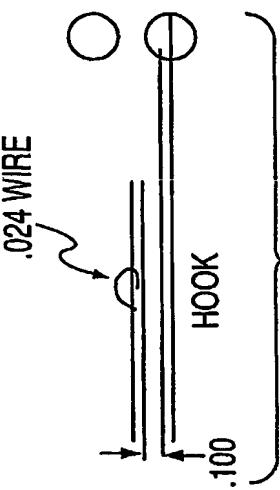


FIG. 52

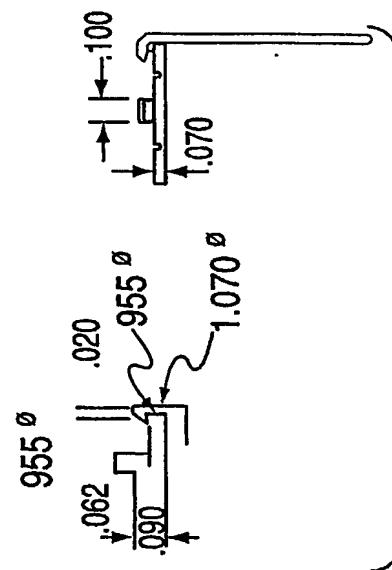
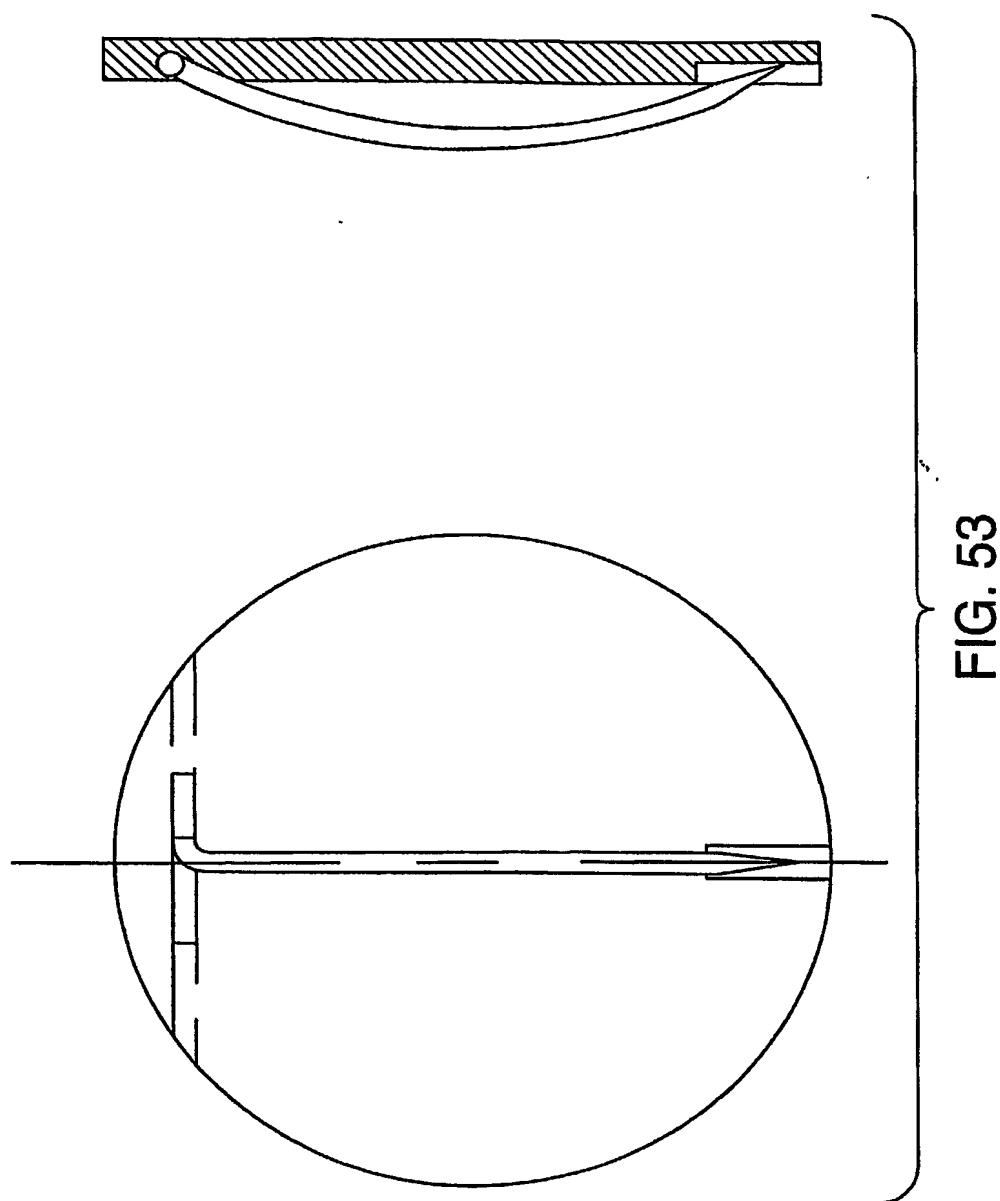


FIG. 50

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PORT FIXATION PROTO #7



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PORT FIXATION PROTO # 8

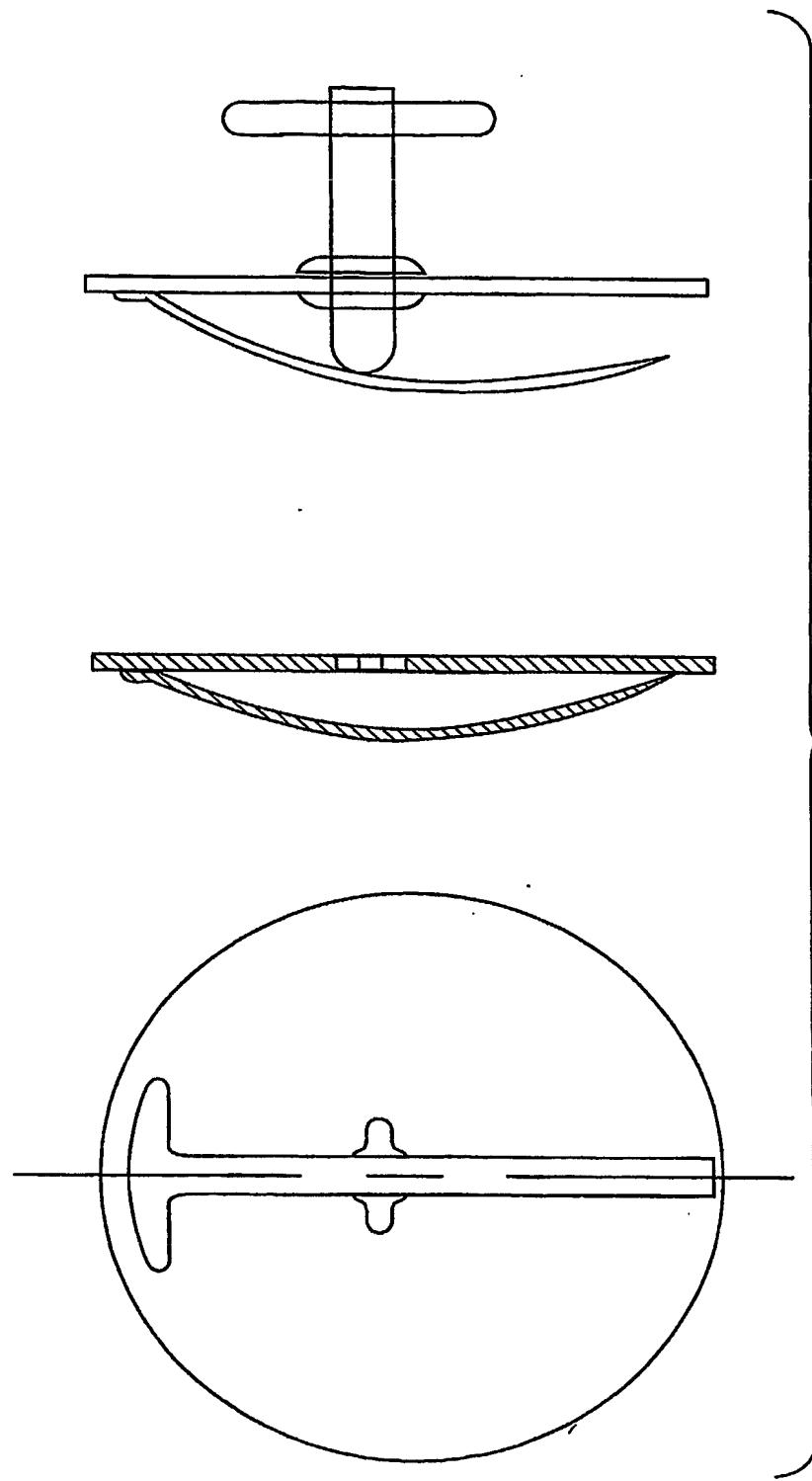


FIG. 54

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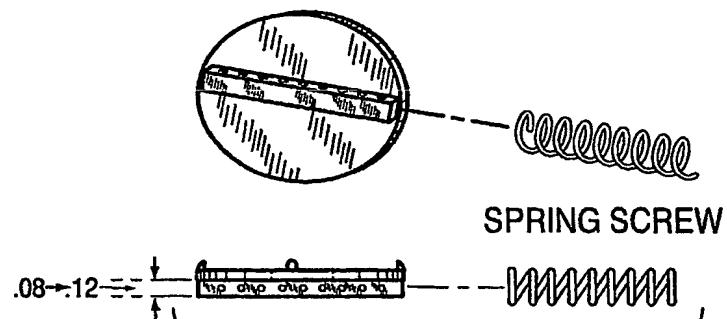


FIG. 55

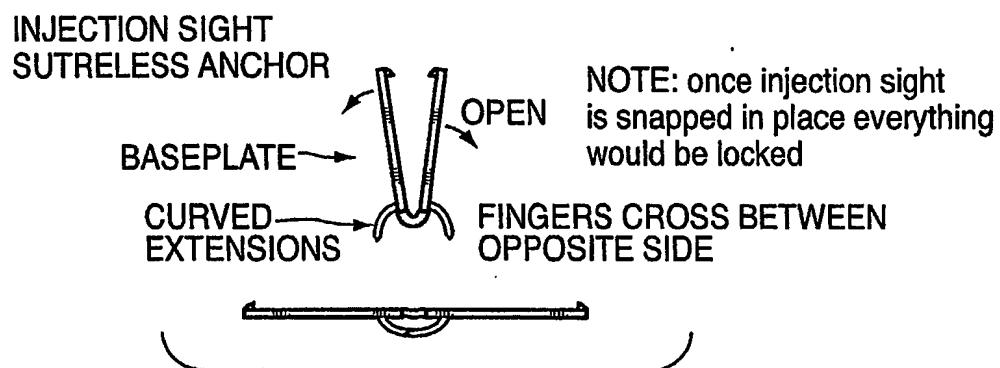


FIG. 56

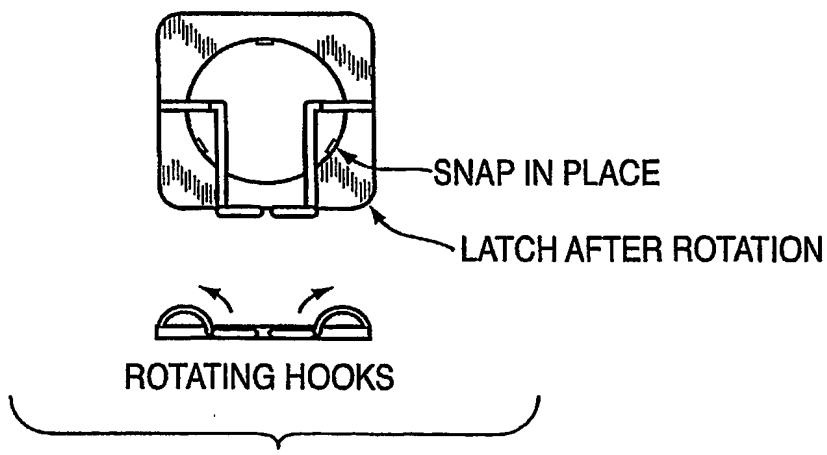


FIG. 57

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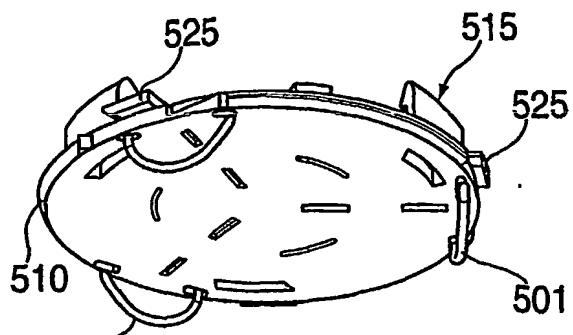


FIG. 59

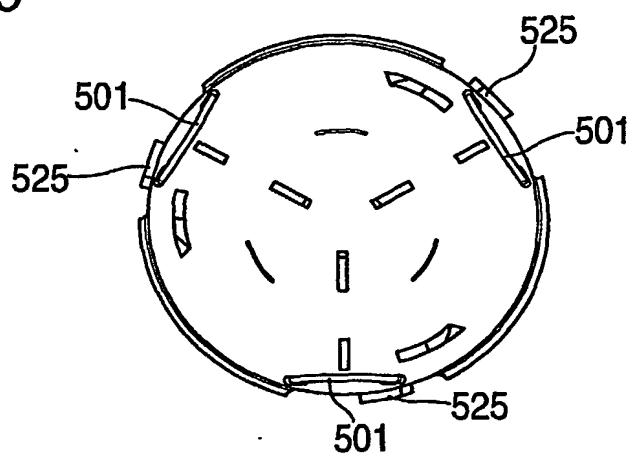


FIG. 60

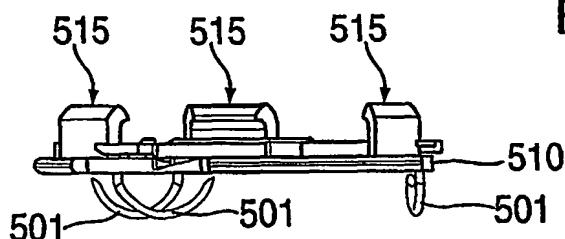


FIG. 61

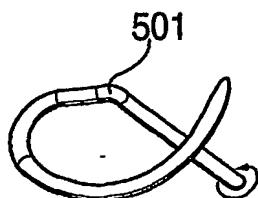


FIG. 62

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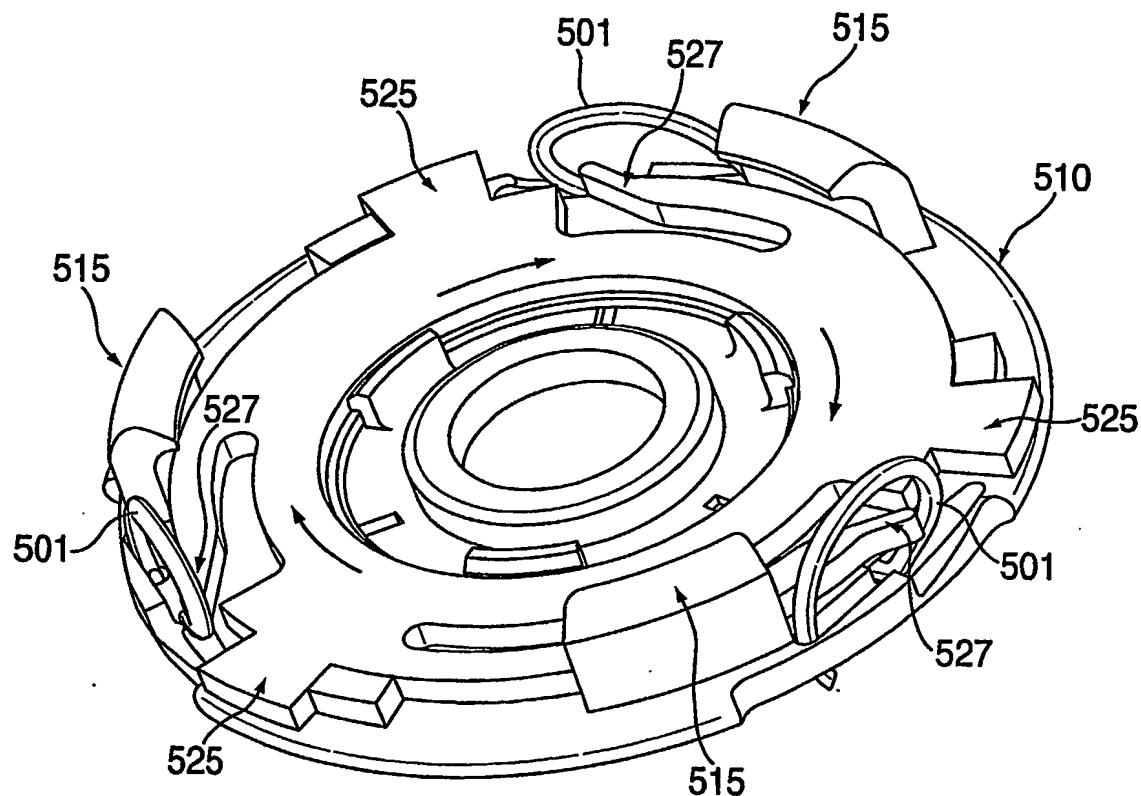


FIG. 58

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